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A new species of *Fannia* Robineau-Desvoidy, 1830 from Madagascar and La Réunion (Diptera: Fanniidae)

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ABSTRACT

Fannia malagasica sp. n. is described from Madagascar and La Réunion, and a key is given to the species of Fanniidae known from the islands of the Malagasy subregion and the southern Indian Ocean. *F. pusio* is recorded from Mauritius for the first time.

KEY WORDS: Diptera, Fanniidae, Madagascar, La Réunion, new species, new record, identification key.

INTRODUCTION

The Fanniidae is a relatively small family of the Diptera, most abundantly developed in the Holarctic region. There are only 12 species- and subspecies-group taxa known from the Afrotropical region: a key was published by Emden (1941) and the species were catalogued by Pont (1980). The present paper describes a new species from the *Fannia canicularis* group of species, which appears to be scarce but widespread on Madagascar and has also been found on La Réunion.

MATERIAL AND METHODS

The material studied is located in the following museums (codens in parentheses): The Natural History Museum, London, U.K. (BMNH); Muséum National d'Histoire Naturelle, Paris, France (MNHNP); Natal Museum, Pietermaritzburg, South Africa (NMSA); National Museum Wales, Cardiff, U.K. (NMWC).

Descriptive terminology is based mainly on McAlpine (1981).

TAXONOMY

Fannia malagasica sp. n.

Figs 1–5

Etymology: The name refers to the Malagasy subregion, where the species is found.

Description:

Male.

Head: Frons at narrowest point about twice diameter of anterior ocellus, less than half width of antennal flagellomere. Eye bare. Post-ocular setulae short except at vertex, in a single row throughout. Viewed from above, fronto-orbital plate brownish-grey to grey pruinose on upper 2/3; lower third and parafacial silvery-white; gena, face and lower occiput grey. Fronto-orbital plate slender, at middle of frons a plate outside frontal setae scarcely broader than the space between the rows of frontal setae, at lunula less than half width of antennal flagellomere. Frontal vitta reduced and visible only as a seam where the fronto-orbital plates touch on median half of frons; 7–10 pairs of inclinate frontal setae, with few interstitials, separated by a gap from a strong pair of reclinate orbital setae placed in front of anterior ocellus. Antennae black, flagellomere twice as long as broad; arista virtually bare. Parafacial narrow, at middle as broad as diameter of anterior ocellus, bare. Vibrissal angle well behind level of profrons. Gena narrow, about 2/3 width of antennal flagellomere. Proboscis rather short and slim, prementum thinly dusted. Palpus black, little swollen in apical half, at most half width of antennal flagellomere, slightly longer than prementum of proboscis.

Thorax: Ground-colour black. In posterior view, postpronotal lobe and notopleuron grey dusted; scutum and scutellum wholly dark brown dusted, more thinly so outside the intra-alar rows, without any vittae, rather lighter on post-alar callus and more grey along sides of scutellum. Pleura thinly grey dusted. Ground-setulae sparse. Presutural acrostichal setulae 3-serial. 2 very short but stout pre-alar setulae, not even as long as a ground-setula. A single setula adjacent to the proepimeral seta. Katepisternals 1+1. Disc of scutellum setulose only around sides and before tip.

Legs: Entirely dark. Fore tibia without a posterior seta, with a conspicuous anterodorsal setula at apical quarter. Mid femur of normal shape; anteroventral surface with a row of very short setae in basal half, at most half femoral depth; posteroventral surface with a row of fine setae that dwindle to nothing in apical quarter, the longest setae equal to femoral depth; posterior surface with a row of fine curled setae, those on apical quarter much stronger. Mid tibia slightly narrowed in basal half; the ventral mat short and uniform, opposite the anterodorsal seta 1/3 of tibial depth; 1 anterodorsal and 1 posterodorsal seta. Mid tarsomere 1 without a basal ventral crest. Hind coxa with 2 or 3 setulae on postero-apical margin. Hind femur of normal shape; without posteroventral setae; anteroventral surface with 3 short setae on apical quarter, preceded by a row of setulae. Hind tibia with 1 submedian dorsal seta; anterodorsal surface with a row of short setae on all but basal quarter, 2 of them longer and stronger; 2 anteroventral setae.

Wing: Conspicuously smoky, especially so in anterior part beyond subcosta. Tegula brown, basicosta brown to orange-brown. Costal spine absent. Cross-vein dm–cu almost straight to weakly sinuous. Calypters dirty white, the margins brown; lower one well-developed and strongly projecting beyond upper one. Knob of haltere dirty orange.

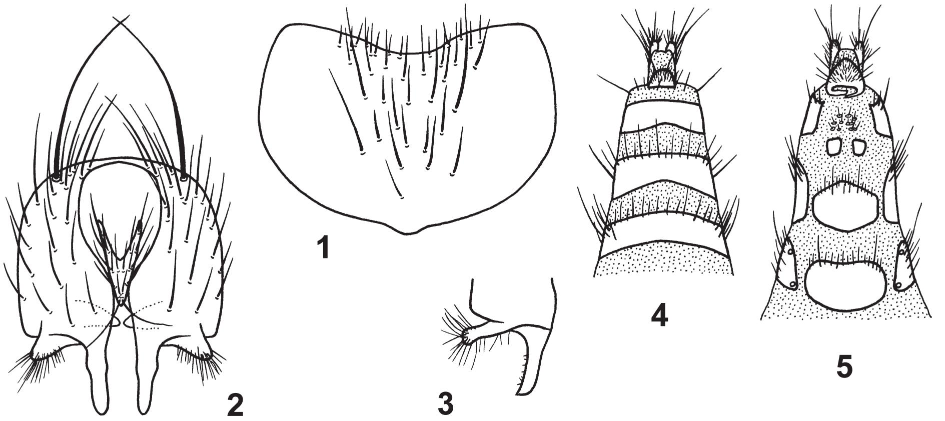
Abdomen: Ground-colour black. In posterior view, tergites mostly densely brown dusted, the dusting grey towards sides; tergites 1+2 to 5 with a very narrow undusted median vitta that does not broaden out at all towards the hind-margin of each tergite. Sternite 1 as in Fig. 1.

Genitalia: As in Figs 2, 3.

Measurements: Body length 5.0–6.0 mm. Wing length 4.0–5.0 mm.

Female. Differs from the male as follows:

Head: Frons at middle rather narrower than an eye, broadening a little from vertex to lunula. Fronto-orbital plate entirely brown pruinose. Frontal vitta dark, sometimes reddish at lunula; frontal triangle small and inconspicuous, only reaching level of upper frontal seta. Fronto-orbital plate broad, opposite lower orbital seta a plate equal to 3 times diameter of anterior ocellus and at this point almost as wide as frontal vitta. About 7 pairs of frontal setae; lower orbital seta midway between eye-margin and inner margin of fronto-orbital plate; setulae on fronto-orbital plate in a single row below lower orbital



Figs 1–5. *Fannia malagasica* sp. n.: (1) Sternite 5 of ♂; (2) Hypopygium of ♂, posterior view; (3) Surstylus of ♂, lateral view; (4) Ovipositor of ♀, dorsal view; (5) Ovipositor of ♀, ventral view. (♂ from Madagascar, Manjakatompa Forest Station; ♀ from Madagascar, Anjavidilava.)

seta, continuing down on to upper half of parafacial. Palpus a little broader, usually over half width of antennal flagellomere.

Thorax: Ground-setulae shorter. Anterior pre-alar setula sometimes longer.

Legs: Knees weakly reddish. Mid femur bare ventrally except for a long posteroventral seta at base and 1 or 2 short anteroventrals in basal quarter. Mid tibia normal in shape and ornamentation, bare ventrally. Hind femur with only 2 anteroventral setae before apex.

Wing: Smoky, but not as dark as in male. Knob of haltere yellow.

Abdomen: Shorter and more pointed. In posterior view subshining black, in dorsal view dulled by dark brown dust. Without any pattern or markings.

Ovipositor: As in Figs 4, 5. Two spermathecae.

Measurements: Body length 4.0–5.5 mm. Wing length 3.5–5.0 mm.

Holotype: ♂ MADAGASCAR: *Antananarivo province*: Ankaratra massif, Manjakatompo forest station, i.1956, B. Stuckenberg (NMSA). The holotype has the antennal flagellomeres missing, but is otherwise in good condition.

Paratypes: MADAGASCAR: 1♂ 3♀ same data as holotype (1♂ 1♀ BMNH, 2♀ NMSA); *Toamasina province*: 1♀ Perinet, xii.1955, B. Stuckenberg (NMSA); *Fianarantsoa province*: 1♀ Pic Boby, Andringitra Ambalavao, 2400 m, 11–14.i.1958, B. Stuckenberg (NMSA); 2♀ Andringitra Ambalavao, Anjavidilava, 2020 m, 17–21.i.1958, B. Stuckenberg (NMSA & BMNH); *Antsiranana province*: 1♀ Diégo Suarez district, Montagne d'Ambre, 1000 m, 23.xi–4.xii.1957, B. Stuckenberg (NMSA). LA RÉUNION: 1♂ Cilaos, 1350 m, 27.xii.1973, L. Matile (MNHNP); 3♂ Forêt de Bélouve, 23–26.i.1955, Institut Scientifique Madagascar (MNHNP).

Discussion: *Fannia malagasica* belongs to the *canicularis*-group and subgroup of Chillcott (1961: 185–188) and is most closely related to *F. canicularis* and the Oriental *F. prisca* Stein, 1918. *F. canicularis* differs from *F. malgasica* as shown in the key below, and the male of *F. prisca* differs by the ash-grey thoracic and abdominal dust, several auxiliary proepimeral setulae, and the numerous posteroventral setae on hind femur.

Key to the species of Fanniidae of the islands of the Malagasy subregion and the southern Indian Ocean

1 Antennal scape and pedicel, lower part of frontal vitta, palpus, tip of scutellum, and legs except tarsi yellow. Only 1 pair of strong presutural dorsocentral setae, preceded by a rudimentary second 'seta' that is hardly distinct from the ground-setulae. ♂: head dichoptic, and no head dimorphism between the sexes. Amsterdam Island (Séguy, 1960) .... *Euryomma peregrinum* (Meigen, 1826)

– Antennae, frons, palpi, scutellum and most of legs black. 2 pairs of strong presutural dorsocentral setae, the anterior one sometimes weak in *Fannia pusio*. ♂: head holoptic, with considerable dimorphism between the sexes 2

2 Hind coxa bare on postero-apical margin. Hind tibia with a single strong anterodorsal seta. ♂: fore tarsomeres 2–5 mostly pale, and tarsomere 1 with a flattened apical spine; mid tarsomere 1 with a ventral spine at base; hind femur with a ventral swelling at apical quarter armed with a tuft of long dense setae. ♀: parafacial bare. Amsterdam Island (Séguy, 1960; I have seen Séguy's material and can confirm his identification) ....*Fannia albitarsis* Stein, 1911

– Hind coxa with 1–3 setulae on postero-apical margin. Hind tibia with several anterodorsal setae and setulae. ♂: fore tarsomeres all black, and tarsomere 1 without a flattened apical spine; mid tarsomere 1 without a ventral spine at base; hind femur without a ventral swelling and without a tuft of long dense setae. ♀: parafacial with fine setulae on upper half or more 3

3 Fore tibia without a stronger anterodorsal setula in apical half. Abdominal tergites 3 and 4 each with 3 dark spots instead of the usual single median triangulated or linear vitta (♂); or black and subshining, or grey dusted with 3 dark spots on tergites 3 and 4 (♀). ♂: upper half of parafacial with short proclinate setulae; orbital setae absent. ♀: frontal triangle reaching to level of lower orbital seta 4

– Fore tibia with a conspicuous stronger anterodorsal setula in apical half. Abdominal tergites 3 and 4 with the usual single median triangulated or linear vitta (♂), or grey dusted and without darker pattern (♀). ♂: parafacial bare; 1 pair of conspicuous reclinate orbital setae. ♀: frontal triangle very inconspicuous and reaching at most a little beyond level of upper orbital seta 5

4 ♂: hind tibia with 1 anteroventral and no posteroventral seta; hind femur without a preapical swelling, with the anteroventral setae only slightly longer than femoral depth and not curled at tips; calypters dark brown. ♀: fronto-orbital plates dusted; abdomen with some grey dusting on at least tergites 4 and 5, often more extensively dusted, these tergites often with a trimaculate pattern. Madagascar, Rodriguez (Bezzi & Lamb, 1926), Seychelles (Stein, 1910; Bezzi, 1923) .... *Fannia leucosticta* (Meigen, 1838)

– ♂: hind tibia with numerous long fine anteroventral and posteroventral setae; hind femur with a preapical ventral swelling bearing a number of long fine anteroventral setae that are longer than femoral depth and are curled at tips; calypters creamy. ♀: fronto-orbital plates thinly grey pruinose, partly subshining especially on inner margins; abdomen subshining black, without dusted pattern or spots. Mauritius (Petrin, CMA 590 m, x.2003, C.N. Kaiser, NMWC) (new record) .... *Fannia pusio* (Wiedemann, 1830)

5 Abdomen yellow at sides in basal part. Scutum light grey dusted, with traces of three brown vittae. Fore knees conspicuously yellow. Borders of calypters creamy. ♂: median abdominal vitta broad, and expanded on hind-margins of tergites 1+2 to 5. ♀: fronto-orbital plate grey to yellowish-grey pruinose. Islands of Marion (Dreux, 1971; Séguy, 1971), St Paul (Schiner, 1868), Amsterdam (Enderlein, 1903, 1909; Séguy, 1960), Kerguelen (Verrall, 1879; Enderlein, 1903, 1909) .... *Fannia canicularis* (Linnaeus, 1761)

– Abdomen entirely dark in ground-colour. Scutum dark brown, without vittae. Fore legs wholly dark. Borders of calypters dark brown. ♂: median abdominal vitta narrow, linear, not expanded on hind-margins of tergites. ♀: fronto-orbital plate brownish-grey pruinose. Madagascar, La Réunion .... **Fannia malagasica** sp. n.

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